

Virtual reality helping to improve healthcare

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A virtual reality colonoscopy developed by researchers at the University of Sheffield could help clinicians to detect abnormalities in the digestive system.

David Randall from the University of Sheffield's Department of Infection, Immunity and Cardiovascular Disease (IICD) has enabled clinicians to travel inside a patient's colon, viewing its mucosal surface with an Oculus Rift virtual reality headset. This allows them to explore the colon in real 3D rather than via the 2D representation offered by conventional PC monitors.

"Virtual colonoscopy, viewed on a 2D monitor, is a procedure performed routinely within the NHS where the structure of the colon is extracted from a CT image and its lumen is 'flown through'," said David.

"While the radiologist transits the colon they look for pathological structures, for example polyps (pre-cancerous lumps).

"Reporting involves examination of both the CT data and [virtual colonoscopy](#) to reach diagnosis.

"Virtual colonoscopy examinations are labour intensive, typically taking 20 minutes for experienced radiologists and significantly longer for less experienced clinicians.

"We hope that by performing this examination with [virtual reality technology](#) offers potential improvements in efficiency and lesion detectability for virtual [colonoscopy](#) examinations."

Provided by University of Sheffield

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